

ABSTRACT OF THE DISCLOSURE

Apparatus and methods are provided for thermally and/or mechanically treating tissue, such as valvular structures, to reconfigure or shrink the tissue in a controlled manner. The apparatus comprises a catheter in communication with an end effector which induces a temperature rise in an annulus of tissue surrounding the leaflets of a valve or in the chordae tendineae sufficient to cause shrinkage, thereby causing the valves to close more tightly. Mechanical clips can also be implanted over the valve either alone or after the thermal treatment. The clips are delivered by a catheter and may be configured to traverse directly over the valve itself or to lie partially over the periphery of the valve to prevent obstruction of the valve channel. The clips can be coated with drugs or a radiopaque coating. The catheter can also incorporate sensors or energy delivery devices, e.g., transducers, on its distal end.